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AUTHOR Hartwigsen, Gail
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ABSTRACT

The ability to function independently in the later years has been defined as a combination of capability and support. To examine factors affecting older adults' use of services provided in an accommodating environment, 52 physically independent residents of an Arizona apartment complex for the elderly were surveyed. Time spent living in the residence, perception of internal or external locus of control, and self-assessed health were correlated with services available to the residents in order to identify use trends. Special use rooms, a bank, beauty shop, gift shop, and dining room were located in the building. Transportation, meal plans, and cleaning services were available upon request. Results generally were insignificant, with the exception of time spent living in the environment, which appeared to have a negative influence on satisfaction with several services. The lack of significant findings indicates support for the individualized approach to the process of aging. The sporadic service usage by this group may indicate that services are truly being used for the purpose of attaining and maintaining environmental independence. (JAC)

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FACTORS AFFECTING USE OF ENVIRONMENTAL SERVICES BY THE ELDERLY

Gail Hartwigsen, Ph.D.
Arizona State University

Correspondence Address:

Department of Home Economics
Arizona State University
Tempe, Arizona 85287

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FACTORS AFFECTING USE OF ENVIRONMENTAL SERVICES BY THE ELDERLY. G.L. Hartwigsen, Department of Home Economics, Arizona State University, Tempe, Arizona 85287.

Independent living for older people depends upon a combination of capability and support. Factors affecting service usage by a group of elderly residents living in an accommodating environment are discussed. Time spent living in the residence, the perception of internal or external control and self-assessed health were correlated with services available to the residents in an attempt to identify use trends. Results generally were insignificant, with the exception of time spent living in the environment which appears to have been a negative influence upon satisfaction with several services. The lack of significant findings indicate support for the individualized approach to the process of aging. It is speculated that service usage may tend to be sporadic rather than regular by this group of elderly, thus truly being used for the purposes of attaining and maintaining environmental independence. This is consistent with the view of housing as an ecological concept: the lack of trends indicative of service usage indicates that residents may be utilizing services as the need arises, not as a regular part of their functioning. Thus, service usage could be interpreted as a buffer between the continually evolving interrelationship between man and his environment.

FACTORS AFFECTING USE OF ENVIRONMENTAL SERVICES BY THE ELDERLY

The ability to function in the later years has been broadly defined as a combination of capability and support (Gelwicks and Newcomer, 1974). Over time, many interrelated factors combine to influence the independent living status of the older person. Physical and mental health, self-perceived health, voluntariness of residence, control, and environmental supports such as housekeeping and transportation services have been mentioned as primary among factors that promote an independent living status for older individuals. However, because of the natures of the living environment, the aging process, and our aging population, attempts to more narrowly define an "appropriate" setting for the elderly have proven to be a increasingly elusive task.

The National Council on Aging in 1980 stated that all older people should have the right to select housing that best supports their capabilities and desires (Perspective on Aging, 1980). Choices should include a range of physical structures, from single family detached homes to rehabilitation centers, and in all cases should provide a full complement of activities and supportive services for the residents. An accommodating environment, one which can adjust to the changing needs and desires of its older residents over time, is advocated (Sherman, 1976) and support is implied in the research of Sherman (1976), Brody (1978), Beaver (1979), Lawton (1981), and Regnier and

Gelwicks (1981).

The present study will examine several aspects of an existing accommodating environment and its residents, specifically investigating the residents' regular use of services and factors that influence their use. Length of residence in the setting, the residents' perception of internal/external control, and self-assessed health are the independent variables considered in relation to the use of services. Despite the ecological nature of the living environment held by the author and advocated by much of the literature cited here, each independent variable considered as a possible influence upon service usage will be discussed separately in the following Review of Research.

REVIEW OF RESEARCH

The Nature of the Physical Environment. Many older people in our society are forced to reside in nursing and domiciliary homes unnecessarily because of the lack of appropriate housing and services. Estimates of the proportion of these misplaced individuals range between 25 and 50 percent of the institutionalized population. These elderly might function quite independently in less protected environments were they available (Oltman, 1980). Recognizing the ecological nature of man and his environment, Lawton (1981) commented on the difficulty in addressing the issue of developing supportive housing: given the constantly evolving natures of both the older person's physical capabilities and the physical environment, causality of factors

affecting the individual are "never as simple as suggested and ... two-way causation, feedback, and reinforcement are the rule" (Lawton, 1981 p. 66).

Favorable environments are associated with positive effects upon the well-being of the elderly (Gelwicks and Newcomer, 1974; Struyk, 1977; and Lawton, 1970).

What, however, is a favorable environment? Again, the accommodating environment is implied. Person-environment fit emphasizes that flexibility of congruence between the individual and the setting over time is necessary in order for the environment to be appropriately supportive. Support services are a necessary consideration in achieving this congruence (Kahana, 1974). Schooler (1974) has reiterated this view, and has also stressed the importance of stability within the environment for the older person. He implies that a flexible environment is needed in order to achieve this stability of location.

Services in the Environment. Services offered as options within the living environment can act as buffers between the elderly residents and their degree of independence. Preferred services tend to be those that are directly supportive of physical independence, such as medical care, transportation, and general building maintenance. Meal, maid and social services often are regarded as auxiliary, therefore suggestions have been made that they be available at optional cost to those who desire them (Lawton, 1981; Sherman, 1976; and Schooler, 1974). Their possible specific or cumulative use in relation to the

environmental independence of the older person, however, are not mentioned in the literature.

Environmental Control and Competence. An individual's tendency toward belief in his ability to control his environment and life is felt to correlate positively with his environmental and life satisfaction (Lawton, 1969; Wolk and Kurtz, 1975). People with an internalized sense of control have been conceptualized as being able to control both their own lives and the environment, hence creating a more personally responsive man-environment interaction (Palmore and Luikart, 1972). This is a reinforcement of the ecological nature of the living environment.

Factors associated with internality of control are diverse; those associated with the process of acculturation, particularly self-concept, religious motivation, and occupation, have been strongly related to perceived control (Paolucci, Hall, and Axinn, 1977). Variables of a more physical nature, such as health, gender and age have been found to be less significant in comparison. Based upon these findings, a multi-variate analytical approach to the study of perceived control has been suggested.

Higher competence ratings have been associated with living in a "demanding" environment, one in which the individual belongs to organizations, engages in hobbies and other interests and utilizes transportation. The individual's high level of competence may enable that person to create or remain in the demanding setting (Kivett, Watson, and Busch, 1977).

On the basis of these findings and suggestions, a series of conclusions regarding the roles of the topics discussed, 1) the physical environment, 2) services in the environment, and 3) environmental control and competence, can be reached. However, the possible linkages among these factors are not apparent, and therefore pose intriguing questions in the study of independent living environments for the elderly.

STATEMENT AND RATIONALE OF THE PROBLEM

The focus of the study reported here was to examine the impact of an accommodating environment upon the independence of its elderly residents. A two-step hypothesis was formed: (1) as time spent living in the accommodating environment increased, the residents' feelings of internal control would improve; and (2) an improved feeling of internal control would result in their subsequent use of available services. It was noted by the administrator of the apartment complex that, upon moving into their apartments, the residents were usually quite dependent upon their families and the staff. For this reason, the researcher felt that a residents' use of services offered upon request, and at times payment, by the facility, would be a step toward their increasing personal independence. This development would take time, hence the perceived relationship among the three dependent variables described here.

A second stage in the problem was to investigate the specific services offered in the accommodating environment and

to identify factors that would significantly influence their use. Results gathered here would be useful to planners of similar facilities, especially in the matching of residents to needed services at various points along the continuum of their aging development.

METHOD

Participants. Fifty-two physically independent residents of an apartment complex for the elderly in Mesa, Arizona[1] participated in the study. There were 10 males and 42 females. averaging 82.8 (SD=7.74) and 78.5 (SD=6.12) years respectively. 11.5 percent were never married, 9.6 percent were presently married, 75 percent were widowed, and 3.8 percent were either separated or divorced. Occupations primarily included retired teachers, housewives, military/government employees, and clerical workers. Religiosity was quite high, with a group mean of 2.02 on a five-point Likert-type scale (where 1 is high and 5 is low). All of the participants were Caucasian.

Length of residence at the apartment complex ranged from several weeks to two and one half years. Those residing there longest were the first residents under the new management. The

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[1] The foundation for Senior Adult Living, Inc., Phoenix, Az, a non-profit organization affiliated with the Catholic Church, operates the building. Despite the religious affiliation, it is not mandatory that residents be member of the Catholic Church. The apartments are rented on a month-to-month basis, and all residents must be financially self-supporting.

complex itself is a four-story building housing approximately 160 residents. All apartments are identical one-bedroom units, each with a fully-equipped kitchen. A security system connects each apartment to the main switchboard in case of emergency. Apartments are located on each storey of the structure, as are special use rooms for gaming, arts and crafts, church services, and other meetings. The main level contains a central administrative and service desk, mail and lobby area, a bank, beauty shop, dining room, and a small gift shop. In addition to these services, transportation, meal plans, and apartment cleaning are available upon request. All services, except transportation, are paid for in addition to the basic rent.

Measures. Three measures were developed from the data obtained. A series of questions determined the residents' regular use of the available services, and a composite score indicating the total number of services used regularly was formed.

A single question was asked to obtain the length of residence in the apartments for each participant.

Rotter's Scale of Internal and External Control (North and Ulatowska, 1981) was used to measure the residents' perception of their control over their lives. The instrument was shortened to 12 of the original 29 questions, as some of the original questions were judged inappropriate for use in the study.

Procedure. Personal single-session interviews of approximately 45 minutes each were conducted independently with each participant within a semi-structured framework. After describing the intent of the study, informed consent was obtained from each

subject. Demographic data was obtained, followed by questions regarding the residents' service usage. Rotter's Scale of Internal and External Control was administered last. This measure was either read to or by the participant, according to his or her expressed preference.

RESULTS

The data indicate that length of residence ranged from several weeks to two-and-one-half years (M=1.5, SD=1.02), scores on Rotter's Scale of Internal and External Control (possible range of 0 through 12), ranged from 0 to 9 (M=4.3, SD=2.28), and the total number of services used (possible total of 8) ranged from 0 to 8 (M=3.9, SD=2.028). The Pearson Product-Moment correlations shown in Table 1 indicate that no significant results were obtained among the three variables in question.

Insert Table 1 here

Further investigation into the specific services yielded similar results. Table 2 shows the Pearson Product-Moment correlations among scores on Rotter's Scale of Internal and External Control, length of residence, and the eight specific services offered to the residents. This table indicates that neither length of residence nor the feeling of personal control (score on Rotter's Scale of Internal and External Control) significantly affected the residents' use of services. The only significant finding was that the use of transportation for food

shopping decreased as the length of residence increased. Table 2 also includes self-assessed health as an independent variable, and the results are also inconclusive regarding its possible influence upon service usage. This variable had not been included in the original hypothesis, but was considered in a secondary analysis in an attempt to locate a trend toward service usage.

Insert Table 2 here

Table 3 indicates results that are slightly more significant. Length of residence would appear to be the most significant factor affecting resident satisfaction with services used; apartment cleaning, beauty shop and gift shop services all were significantly correlated with the time spent living in the apartment complex indicating less satisfaction with the service as times goes on. Apartment cleaning appears to be the most affected by the three independent variables, as a significant correlation was also obtained with it and self-assessed health. Banking service usage was significantly but negatively correlated with the feeling of personal control, indicating that the more internally oriented among the residents are more likely to be satisfied with that service.

Insert Table 3 here

Attempts to subdivide the group according to scores either on Rotter's Scale of Internal and External Control or length of

residence were not attempted since that would have yielded sub-group sizes below the number needed for statistical significance. However, such investigations with larger groups are indicated and could provide needed direction in service planning.

DISCUSSION

That support services contribute to the older person's environmental independence is a quite commonly held belief, as indicated in the literature (Gelwicks and Newcomer, 1974; Sherman, 1976; Lawton, 1981; Oltman, 1980; Struyk, 1977; Schooler, 1974). Of interest in the current study were the conditions under which services available in an accommodating environment were actually used by the residents.

From the data, it appears that regular service usage by this older group is too elusive an activity to predict with much substantiality. With one exception, neither total nor individual service usage was shown to be significantly correlated with length of time spent living in the residence, perception of internal or external control, or, as included in a secondary stage, self-assessed health. When the three independent variables were correlated with service satisfaction, the results were only slightly more significant.

The sample size limited the analyses that could be carried out on the data. Breaking the sample into subgroups according to demographic characteristics, scores on Rotter's Scale, and specific periods of time spent in residence would have been

interesting and perhaps more significant.

The lack of consensus regarding factors affecting service usage gives cause for some concern. Services are generally felt to enhance the indendent living status of older people, however, the results reported here do not allow for a categorical prediction model of their use. A cause-and-effect model would be valuable to planners of living environments for the elderly, specifically when the defense of providing monetary support for such services arises. For example, many privately run housing complexes for the elderly recognize the apparent positive effects of support services upon the person's independence and therefore provide wide ranges of services for their use. However, public housing developments usually contain few, if any, such services. When the time arrives that the public housing resident can no longer provide for his or her own needs, relocation to a more dependence-fostering environment usually occurs. Such a move is often made at considerable cost, both to the individual's self-esteem and to society, who normally must pay for the increased care the person would then receive.

Taking these considerations into account, a cause-and-effect model of the elderlys' service usage would be an asset, particularly for advocates of the accommodating environment concept. However, the findings here do not presently indicate trends that allow for this. Several possible reasons for the lack of significant findings exist. A service that is perceived as inadequate by the residents will probably not be used often.

In the case of the present study, this may have influenced statistical results involving the meal plan service.

Another plausible reason could be the nature of the intent of the services themselves. Services in the elderlys' living environment are intended to assist in the attainment and maintenance of physical independence. Sporadic, rather than regular use of them, may be a more realistic way of viewing their true intent. Ecologically, we see that man has a continuing reciprocal relationship with his environment. This relationship will change according to the situation at hand; in this case the older person probably will move among various levels of service usage, trying to match his or her need with the appropriate service(s). More and more we are coming to view aging as a process that is defined in terms more applicable to the individual than to groups. Along these lines, we are also recognizing that older people follow their own timetables with regard to independence and dependence, sickness and health, ambition and depression. Regular service usage might well foster the negative complements of these continuums, while sporadic usage might indicate support for the positive ends of them. In this sense, occasional use of the services might indicate a contemplative, responsible approach to their use, whereas constant use could represent overuse, and, in some cases, misuse, as a result of habituation.

Were this the case, services in the environment would still be advocated, albeit without seeming concrete evidence indicative of their necessity. The individual approach to the

concept of aging must be stressed. Perhaps support services in living environments should be offered on small scales but with flexible staffing with the capability of concentrating upon the service(s) needed at any particular time. Nevertheless, the concept of services fostering physical independence must not be lost. Their responsible provision must be maintained, and in some cases, begun. However, this indicates more research be done emphasizing the reasons for occasional use of services. Such research might lead to the formation of trends that would be helpful to the planners of accommodating environments.

Panel studies, where where the effects of the variables on each participant could be measured over time, are recommended. Considering the resources that are consumed in the provision of housing for the physically independent and dependent both, research investigating the actual effects of the physical environment upon the inhabitants should be pursued. A lack of instrumentation hampers such research, and it may indeed be that we are missing existing signals from our older population that could indicate directions for us in the development of appropriately satisfying environments.

The development and use of proper instrumentation and the obtaining of relevant data is noted in the research. Newman (1981) stresses the belief that census data is inadequate in the study of the elderly and their housing, particularly regarding their choices and decisions over time. Longitudinal research focusing upon such global factors as health status, social support, household composition, and economic well-being is

recommended. None of this information has to date been collected by the census.

A similar theme was embraced by the National Council on Aging. "Research should be undertaken on the physical and social aspects of housing for the elderly. Our retired population will soon embrace a group of Americans of widely differing ages, values, and abilities. How we house and serve older people tomorrow must be based on information developed today through critical research and its sensitive interpretation" (Persepctive on Aging, 1980).

In conclusion, the study reported here has provided some direction for future research concerned with ascertaining linkages among various aspects of the older person's environment. That our future elderly will be facing lives that pose challenges and decisions unlike any previous time is quickly becoming apparent. The need for finding new approaches to these challenges in the environment will continue to increase in importance as time goes by.

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Table 1.

Correlations Among Length of Residence, Scores on Rotter's Scale of Internal and External Control, and Total Number of Services Used Regularly

	length of residence	Rotter's Scale
total service usage	.218	.170
Rotter's Scale	-.140	

Table 2

Correlations Among Residents' Use of Services Available, Length of Residence, Rotter's Scale of Internal and External Control, and Self-Assessed Health.

Services Available	length of residence	Rotter's Scale	Self-Assessed Health
transportation for food shopping	.250*	-.103	-.151
transportation for "general" shopping	.211	-.077	-.199
transportation for medical service	.198	.009	-.197
apartment cleaning	.038	.049	-.219
meal plan participation	.215	.064	-.182
banking services	.173	.113	-.176
beauty shop	.090	.039	-.206
gift shop	.033	.039	-.126

*p < .05
**p < .01

Table 3

Correlations Among Residents' Satisfaction with Services Available, Length of Residence, Rotter's Scale of Internal and External Control, and Self-Assessed Health.

Services Available	Length of Residence	Rotter's Scale	Self-Assessed Health
Transportation for food shopping	-.079	.196	.057
Transportation for "general" shopping	-.082	.098	.021
Transportation for medical service	-.023	-.088	.064
apartment cleaning	.335**	-.157	.293**
meal plan participation	.073	-.217	.008
banking services	.145	-.264*	.061
beauty shop	.321*	.142	.114
gift shop	.316*	-.098	-.154

* $p < .05$
** $p < .01$